

# Cat<sup>®</sup> 3512B

## Diesel Generator Sets

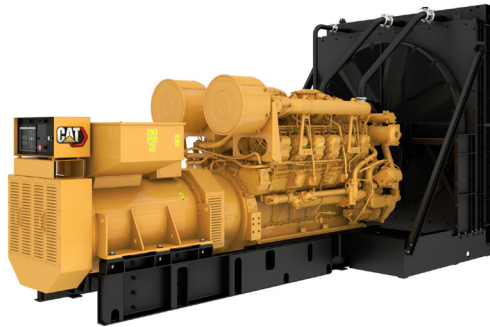


Image shown is for radiator version.  
Images shown might not reflect actual configuration.

Caterpillar is leading the power generation marketplace with Power Solutions engineered to deliver unmatched flexibility, expandability, reliability, and cost-effectiveness.

Engine Model	3512B TA, V12, 4-stroke Water-cooled Diesel
Voltage	415V
Bore	170 mm
Displacement	51.8L
Stroke	190 mm
Compression Ratio	14.0:1
Aspiration	Turbocharged Aftercooled
Governor Type	ADEM™ A3
Fuel System	Electronic Unit Injection

Prime Ratings 50 Hz kVA (ekW)	Emissions / Fuel Performance
1500 (1200)	Low Fuel Consumption

### Features

#### Cat<sup>®</sup> Diesel Engine

- Reliable, rugged, durable design
- Field-proven in thousands of applications worldwide
- Four-stroke-cycle diesel engine combines consistent performance and excellent fuel economy with minimum weight

#### Generator

- Matched to the performance and output characteristics of Cat engines
- Industry-leading mechanical and electrical design
- Industry-leading motor starting capabilities
- High efficiency

#### Cat EMCP Control Panel

- The EMCP controller features the reliability and durability you have come to expect from your Cat equipment. EMCP 4 is a scalable control platform designed to ensure reliable generator set operation, providing extensive information about power output and engine operation. EMCP 4 systems can be further customized to meet your needs through programming and expansion modules

#### Design Criteria

- The Generator set meets transient response and Block loading step as per ISO 8528-5
- Conforms to ISO 8528-5 G3 load acceptance requirements

#### Single-source Supplier

- Fully Prototype tested with certified torsional vibration analysis

#### Worldwide Product Support

- Cat dealers provide extensive post-sale support including maintenance and repair agreements. Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- The Caterpillar S•O•S program cost-effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products

## Standard and Optional Equipment

### Standard Equipment

#### Air Cleaner

- Single element canister type air cleaner
- Service indicator

#### Cooling

- Package-mounted SCAC radiator/heat exchanger
- Radiator fan and belt drive\*
- Fan and belt guard\*
- Coolant drain valve

#### Exhaust

- Dry exhaust manifold
- Flange faced outlets
- Mufflers
- Stainless steel exhaust flex fitting
- Flanges

#### Fuel

- Primary fuel filter with integral water separator
- Secondary fuel filter
- Fuel priming pump
- Flexible fuel lines
- Fuel cooler

#### Generator

- Matched to the performance and output characteristics of Cat engines
- IP23 Protection
- AREP Excitation
- Class H Insulation, Class H Temperature rise
- Form wound
- Regulator D550 – Grid code
- Load Acceptance Module (LAM)
- Droop kit
- Winding temperature detector
- Bearing temperature detector
- Anticondensation heater

### Power Termination

- Bus bar
- Right side standard
- Top and bottom cable entry

### Control Panel

- EMCP 4.2 genset controller
- Voltage and speed adjust
- Emergency stop button
- User interface panel (UIP) – Rear mount

### Mounting

- Anti-vibration mounts
- To be used with radiator package

### Starting/Charging

- Batteries with mounting rack and cables (standard)
- Charging alternator – 45 Amps, 24 Volts
- Heavy duty starting system – 24 Volts

### General

- 990 liters fuel tank
- Paint – Caterpillar yellow except rails and Heat exchanger in gloss black

### Optional Equipment

- Air starting motor with control and silencer
- Jacket water heater
- Barring tool device
- Remote mounted radiator
- Air inlet shutoff
- Duplex fuel filter
- Heavy-duty air cleaner
- Option for remote mounting of UIP
- Over size generator
- Duplex oil filter
- Electric pre-lube pump

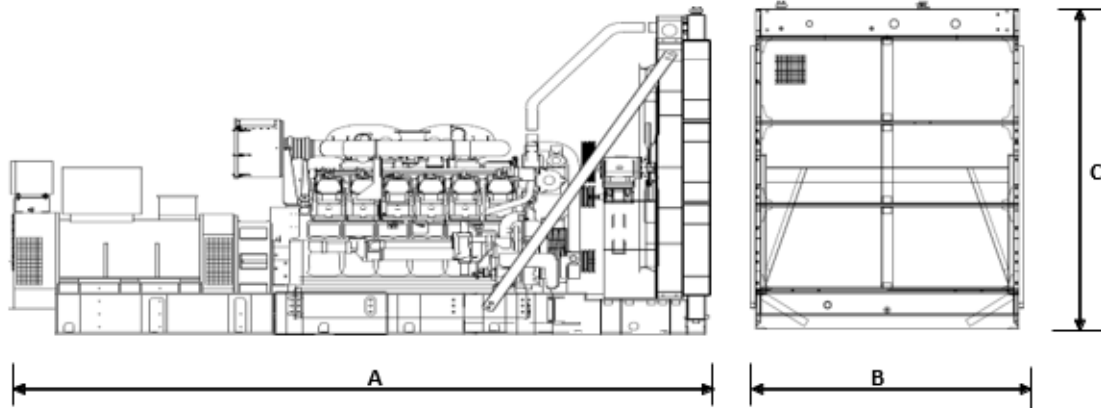
## Package Performance

### Low Fuel Consumption

Performance	Prime	
	Radiator	Heat Exchanger
Generator set power rating with Fan @ 0.8 power factor	1200 ekW	
Generator set power rating	1500 kVA	
Aftercooler (separate circuit)	90°C	60 °C (Hex) Air-to-Air
<b>Fuel Consumption</b>		
100% load	306 L/hr	292.4 L/hr
75% load	238.2 L/hr	221.7 L/hr
50% load	162.3 L/hr	156.5 L/hr
<b>Cooling System</b>		
Engine coolant capacity	195L	
Coolant capacity with radiator	472L	
<b>Inlet Air System</b>		
Combustion air inlet flow rate	95.8 m <sup>3</sup> /min	100 m <sup>3</sup> /min (Hex)
Max. allowable combustion air inlet temp	47°C	
<b>Exhaust System</b>		
Exhaust stack gas temperature	492.5°C	448°C
Exhaust gas flow rate	259.2 m <sup>3</sup> /min	253 m <sup>3</sup> /min
Exhaust system backpressure (maximum allowable)	6.7 kPa	6.7 kPa
<b>Heat Rejection</b>		
Heat rejection to jacket water – kW (Btu/min)	540 kW	509 kW
Heat rejection to exhaust (total) – kW (Btu/min)	1152 kW	1102 kW
Heat rejection to aftercooler – kW (Btu/min)	213 kW	264 kW
Heat rejection to atmosphere from engine – kW (Btu/min)	138 kW	125 kW
Heat rejection to atmosphere from generator	57.6 kW	57.6 kW
<b>Alternator</b>		
Motor starting capability @ 30% voltage dip at 0.4 PF	2980 skVA	
Current	2087 Amps	
Frame size	DSG 74M	
Excitation	AREP	
Temperature rise	125°C	

- For ambient and altitude capabilities consult your Cat dealer.
- Air flow restriction (system) is added to existing restriction from factory.
- Generator temperature rise is based on a 40°C (104°F) ambient.

## Weights and Dimensions



Length "A" mm (in)	Width "B" mm (in)	Height "C" mm (in)	Dry Weight kg (lb)
5500.9 (216.57)	2645 (104.13)	3183.5 (125.33)	13 250 (29,220)

**Note:** For reference only. Do not use for installation design. Contact your local Cat dealer for precise weights and dimensions.

## Definitions and Conditions

**Prime:** Output available with varying load for unlimited time. Prime power in accordance with ISO 8528. 10% overload power in accordance with ISO 3046.

**Ratings** are based on SAE J1349 standard conditions. These ratings also apply at ISO 3046 standard conditions.

### Applicable Codes and Standards

ISO 3046, ISO 8528, IEC60034-1, IS4722.

**Note:** Codes may not be available in all model configurations. Please consult your local Cat dealer representative for availability.

### Fuel Rates

Fuel Rates are based on fuel oil of 35° API [16°C] gravity having a LHV of 42,780 kJ/kg when used at 29°C and weighing 838.9 g/liter (7.001 lbs/U.S.gal.)

Additional ratings may be available for specific customer requirements, contact your Cat representative for details. For information regarding low sulfur fuel and biodiesel capability, please consult your Cat dealer.

[www.cat.com/electricpower](http://www.cat.com/electricpower)

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